

Rice Lake Neonatal Scale

610-10-2 Series

Technical & Operating Instructions



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WEIGHING SYSTEMS
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1.0 Introduction

The Rice Lake Neonatal Scale provides precise weighing of babies and neonates. Highly sophisticated microprocessor technology allows accurate, reliable, and repeatable weighments every time. Movement compensation technology eliminates errors caused by spontaneous movement of the baby and the weight display can be displayed in pounds/ounces or in kilograms.



This manual can be viewed and downloaded from the Rice Lake Weighing Systems web site at www.ricelake.com/health. Rice Lake Weighing Systems is an ISO 9001 registered company



Figure 1-1. Rice Lake Neonatal Scale

With the Rice Lake Neonatal Scale, there are certain precautions that should be taken to prevent injury to the baby and damage to your scale. Please follow these instructions carefully;

- Do not transport the scale while the infant is on the weighing tray.
- Do not drop the scale or subject it to violent shocks.
- For accurate weighing, the scale must be placed on a flat, stable surface.
- For accurate weighing, verify proper operation according to the procedure described in this manual before each use.
- Do not use around flammable liquids.
- Operation at other voltages and frequencies than specified could damage your equipment.

2.0 Assembly Instructions

The Rice Lake Neonatal Scale comes with three pieces. Those pieces include:

- Weighing tray
- Base assembly
- Power supply

Remove each part to be assembled from its carton and unwrap the packing material carefully to prevent scratching the unit's parts.

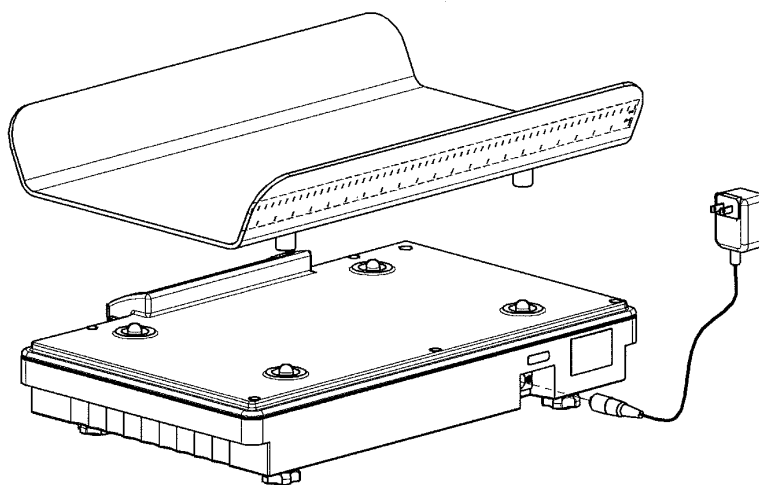


Figure 2-1. Neonatal Assembled Parts

1. Place the base assembly on a sturdy, flat surface.
2. Attach the weighing tray to the base assembly.
3. Plug in the power supply.

Power Supply

The Rice Lake Neonatal Scale has a 120VAC or 230VAC adaptor to use when power is not readily available. The AC power adaptor plugs into the back of the indicator as shown in Figure 2-2.



Figure 2-2. AC Power Connection Site

The Rice Lake Neonatal Scale is also capable of running on its internal sealed lead-acid rechargeable battery if no additional power source is available. The battery life is approximately 75 hours. If the *LO Bat* indicator is showing on the display, recharge battery or connect the scale to an AC power source as soon as possible for accurate weighing.

Battery Charging

When the scale is on, the *BAT* display indicates that the scale battery requires recharging. The scale should be connected to an AC power source.

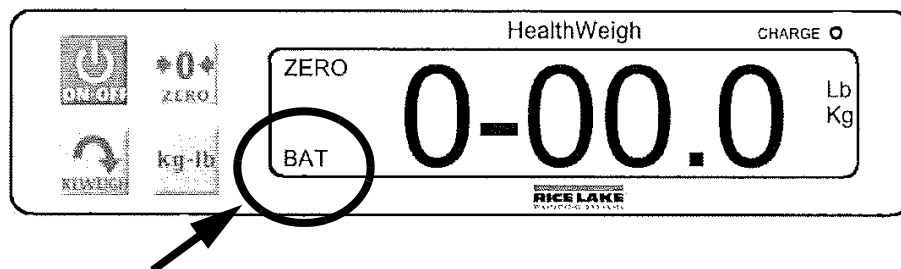


Figure 2-3. Low Battery Display Location

When the AC adaptor is connected to a power source, the rechargeable battery goes into recharge mode.

NOTE: To maintain battery longevity we recommend you charge it on a regular basis rather than waiting until it is fully discharged.

3.0 Scale Setup

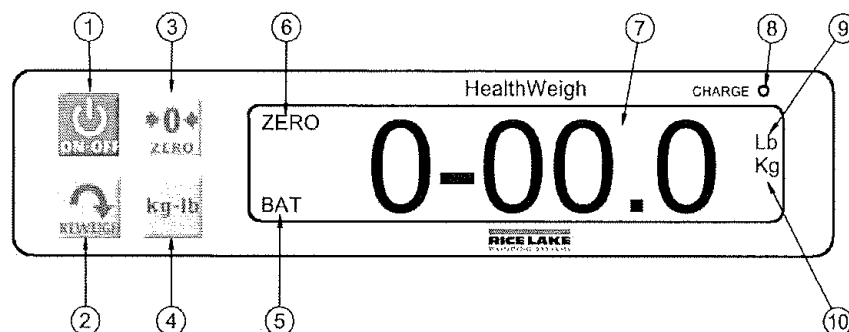


Figure 3-1. Neonatal Display

Use the following table to identify what each part of the display does.

Item	Description	Function
1	ON-OFF key One short push for On One short push for Off	This key turns the scale on and off
2	REWEIGH key One short push	This key allows repeated reweighing of an infant
3	ZERO key When the scale is turned on, use one short push	This zeros the digital display prior to weighing. It enables the cancellation (tare) of weight of blankets or other accessories on the scale.
4	Kg/Lb key One short push	This key selects either pounds/ounces or kilograms
5	BAT indicator	When the scale is on, this display indicates that the scale battery requires recharging. The scale should be connected to an AC power source.
6	ZERO indicator	When the scale is on, this display indicates that the scale is stable and ready for use
7	6-Digit LCD Digital display	The LCD displays the infant weight in pounds/ounces or kilograms and shown by the LB or KG indicator on the right side of the display. When the REWEIGH key is depressed, the display will blink until the infant's weight is determined.
8	CHARGE indicator	This is displayed when the scale is on and is connected to an AC power source and the battery is in the charging process
9	LB indicator	When the scale is on, this display indicates that the scale is weighing in pounds/ounces
10	KG indicator	When the scale is on, this display indicates that the scale is weighing in kilograms

Table 3-1. Front Panel, Showing Annunciators

Use the following steps to set up your Rice Lake Neonatal Scale when you initially power it up.

1. To operate the unit using the AC adaptor, plug the AC adaptor cable into the back of the scale as shown in Figure 2-2 2, and the AC adaptor plugs into a power source.
2. Press the **ON-OFF** key to turn on the scale.
3. When the self test function is complete, the digital display should read: *0-00.00* if set up in Lb/Oz or *0.000* if set up to read in Kg. The *Charge* indicator should also be illuminated on the display up until the battery is fully charged.
4. Place a weight (not exceeding 30 lbs) on the scale. The digital display should blink ----- until the weight calculation is complete.
5. Press the **Kg-Lb** key to select the weight mode, either in pounds/ounces or kilograms.
6. Pressing the **REWEIGH** key forces the scale to recompute the weight of the item on the scale.
7. Remove the weight from the scale. The digital display will continue to show the weight of the item that was on the scale.
8. Press the **ZERO** key and the display will return back to zero.
9. Disconnect the scale from the AC power source. The scale will automatically switch over to battery power and if a rechargeable battery is in use, the *Charge* indicator will turn off.

NOTES:

- If the setup procedure failed, refer to the troubleshooting section of this manual. If the problem is not resolved, refer to a qualified service provider.
- The rechargeable batteries automatically go into recharge mode when the AC adaptor is connected to the power source. When the cable is inserted into the power source, the LED light up red which is located to the left hand side of the cable on the back of the indicator. When the battery is completely recharged, the LED changes from red to green.
- After the procedure, if you are using a rechargeable battery, connect the scale to an AC power source for at least eight hours to recharge the battery.

4.0 Scale Operation

The Rice Lake Neonatal Scale can accurately weigh neonates and babies up to 30 lbs. Use the following steps to weigh a baby.

1. Press the **ON-OFF** key to turn the scale on.
2. Wait until the 0-00.0 (if set up in Lb/Oz) appears on the digital display or 0.000 if set up in Kg.
3. Place a pad on the weighing tray. Make sure that the edges of the pad are on the tray and are not touching the surface on which the scale is positioned.
4. Press the **ZERO** key to cancel the weight of the pad or other accessory that is on the weighing tray.
5. Place the infant on the scale. The display will blink until the weight of the infant is determined.
6. Press the **REWEIGH** key to weigh the infant again (used to achieve a more accurate result).
7. Remove the infant from the scale. The digital display should continue to read the infant's weight until **REWEIGH** or the **ZERO** key is pressed.

NOTE: *If the scale is not used for five minutes, it switches off to save battery life and power. To restart the scale, press the ON-OFF key.*

5.0 Calibration

The Rice Lake Neonatal Scale is pre-calibrated from the factory. But if you need to calibrate the scale, the scale must be turned on. Once the scale is turned on, press the **REWEIGH** and **ZERO** keys simultaneously. Hold those keys until *LOAD* appears on the display alternating with the suggested weight for calibration.

The following chart illustrates the calibration procedure.

Step		Function	Display	Available Parameters
1	Turn the scale on. While <i>START</i> is displayed, press and hold the Kg-Lb and REWEIGH keys until <i>CAL</i> is displayed.	Enters into calibration mode	StArt	The scale automatically advances to Step 2
2		Sets the value of the calibration weight you are going to use for calibrating the span value of the scale	LOAd <-> XXX.X	Use the numeric data entry as explained in the numeric data entry section, to change the value. To advance to the next function, press the REWEIGH key.
			CLEAr	Clear the platform and be sure of the scale's stability. To advance to the next function, press the REWEIGH key.
			----- PUT <-> XXXX	Place the requested weight on the scale. This will display for a few seconds. To advance to the next function, press the REWEIGH key.
			CAL FAC tOr <-> XXXX	This will be displayed for a few seconds and shows the current calibration factor. To advance to the next function, press the REWEIGH key.
			SAvE	The scale displays that it has saved that calibration value. Remove the calibration load from the tray. To advance to the next function, press the REWEIGH key.
			dONE	To save the new calibration, press the REWEIGH key.
			StArt XXXX	Remove the weight from the scale and the display now is ready and reads 0000.00

Table 5-1. Calibration Menu

5.1 Numeric Data Entry

Use the **ZERO** key to change the numeric data entry while setting up the various configuration parameters and while in calibration mode.

Use the following steps:

1. Press and hold the **Kg-Lb** key, the rightmost digit on the display will begin to increment.
2. Release the **Kg-Lb** key to stop the increments.
3. A double click on the **Kg-Lb** key will cause the right hand digit to move one place to the left.
4. Repeat steps 1-3 until the desired number is reached.

6.0 Troubleshooting & Testing

Refer to the following instructions to check and correct any failure before consulting service personnel.

Symptom	Possible Cause	Corrective Action
Scale does not turn on when using the rechargeable battery	Dead battery	Connect the scale to a power source
Scale does not turn on	Dead battery	Connect the scale to a power source
	Faulty electrical outlet	Use a different electrical outlet
	Bad power supply	Replace adaptor
Questionable weight or the scale does not zero	External object is interfering with the scale	Remove the infant/interfering object from the weighing tray from the scale
	Display did not show 0.0 before weighing	Remove the infant, zero the scale and begin the weighing process again
	Scale is not placed on a level surface	Place the scale on a stable surface and begin the weighing process again
	The weighing tray is not placed properly	Place the weighing tray in its proper place
	Scale is out of calibration	Check the weight with a known weight value
The display shows a STOP message	The load on the scale exceeds the capacity	Remove the excess weight and use the scale according to its stated limit
The display shows LO Bat message	The rechargeable battery is low	Recharge the battery according to instructions
The display shows ----- message	The load is in under-load condition	Make sure the weighing tray is placed on the base properly
The display shows Err message as detailed in the table below		
Err 2	Low saturation state (low A/D)	The load cell is not connected properly. Check the cables and mechanical connections. If the problem persists, replace the load cells.
Err 3	High saturation state (high A/D)	See Err 2
Err 6	Unstable weight. Cannot calibrate	Check the load cells' mechanical surroundings and see that nothing touches them and that the cables are properly welded.
Err 7	Mathematical error; division by zero. Cannot calculate the calibration factor	Will show then trying to calibrate with no calibration weights on the scale

Table 6-1. Troubleshooting Table

6.1 Test Mode

The test mode menu is a special mode used for checking the systems' state and for troubleshooting. Entry into this mode is possible only when the scale is turned off. To access the test mode parameter, press and hold the **REWEIGH** key when starting the unit. Alternating between the parameters is performed by pressing the **REWEIGH** key.

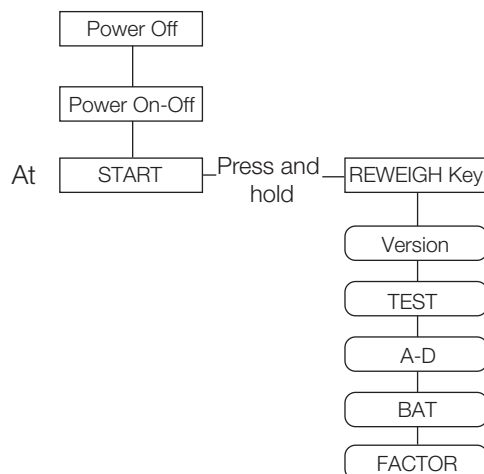


Figure 6-1. Test Mode Menu Structure

Table 6-2 lists the various display messages when testing the scale.

NOTE: < - > means that you can toggle between two values.

Step		Function	Display	Available Parameters
1	With the scale turned off, simultaneously press the REWEIGH and ON/OFF keys	This enters into the test mode of the scale.	StArt	The scale automatically advances to Step 2.
2		Identifies the software ID	IdEnt < - > 10999	Press the REWEIGH key to advance to the next function
3		Shows the current weight value	tESt < - > 0.0	To advance to the next function, press the REWEIGH key.
4		Shows the current A/D value	A-d < - > XXXX	To advance to the next function, press the REWEIGH key.
5		Checks for current battery level	bAt < - > XXX or nO bAt	If the <i>nO bAt</i> is displayed, there are not batteries in the unit. To advance to the next function, press the REWEIGH key.
6		This function sends the unit back into test mode again to cycle through the menus again.	FAcTOr < - > XXXXX	Go through the menu system again or to exit test mode, press the ON-OFF key to turn off the indicator.

Table 6-2. Test Mode Menu

7.0 Maintenance

The following section provides instructions for maintaining and cleaning the Rice Lake Neonatal Scale. Maintenance operations other than those described in this section should be performed by qualified service personnel.

7.1 Basic Maintenance

Before the first use of the scale and after periods of non-use, check the scale for proper operation and function. If the scale does not operate correctly, contact qualified service personnel.

Go through the following steps for basic maintenance.

1. Check the overall appearance of the entire scale for any obvious signs of damage, abuse, etc.
2. Inspect the condition of the AC adaptor for cord cracking or fraying, or for broken or bent prongs.

7.2 Cleaning

Proper care and cleaning is essential to ensure a long life of accurate and effective operation. Before beginning the cleaning process, disconnect the scale from the AC power source.

1. Clean all external surfaces with a clean, damp cloth or tissue. Mild soap and water solution may be used. Dry with a clean soft cloth.
2. Do not immerse the scale into cleaning or other liquid solutions.
3. Do not use Isopropyl alcohol or other solutions to clean the display surface.

8.0 Specifications

Capacity and Graduation:	0 - 5 Lb x 0.05 oz (0 - 2 Kg x 1 g) 5 - 12 Lb x 0.1 oz (2 - 6 Kg x 5 g) 12 - 30 Lb x 0.2 oz (6 - 15 Kg x 5 g)
Power Requirements:	120 VAC-9VDC-50Hz / 230 VAC-9VDC-50Hz
Environmental:	Operating temperature: 50 to +95°F (10 to +35°C) Storage temperature: 32 to +122°F (0 to +50°C) Humidity: 85% relative humidity
Dimensions:	22 x 16 x 7.75" (56 x 40.5 x 20 cm)
Weight:	21 Lb (9.5 Kg)

For More Information

System Manuals

- *Rice Lake Neonatal Scale Operation Instructions*, PN 103987

Literature

- *Medical Scales - Neonatal Scale 4 Color*, PN 106420

Web Site

- <http://www.ricelake.com/health>

Contact Information

Hours of Operation

Knowledgeable customer service representatives are available 6:30 a.m. - 6:30 p.m. Monday through Friday and 8 a.m. to 12 noon on Saturday. (CST)

Telephone

- Sales/Technical Support 800-472-6703
- Canadian and Mexican Customers 800-321-6703
- International 715-234-9171

Immediate/Emergency Service

For immediate assistance call toll-free 1-800-472-6703 (Canadian and Mexican customers please call 1-800-321-6703). If you are calling after standard business hours and have an urgent scale outage or emergency, press 1 to reach on-call personnel.

Fax

Fax Number 715-234-6967

Email

- US sales and product information at proinfo@ricelake.com
- International (non-US) sales and product information at intlsales@ricelake.com

Mailing Address

Rice Lake Weighing Systems
230 West Coleman Street
Rice Lake, WI 54868 USA

Neonatal Scale Limited Warranty

Rice Lake Weighing Systems (RLWS) warrants that all RLWS equipment and systems properly installed by a Distributor or Original Equipment Manufacturer (OEM) will operate per written specifications as confirmed by the Distributor/OEM and accepted by RLWS. All systems and components are warranted against defects in materials and workmanship for two years.

RLWS warrants that the equipment sold hereunder will conform to the current written specifications authorized by RLWS. RLWS warrants the equipment against faulty workmanship and defective materials. If any equipment fails to conform to these warranties, RLWS will, at its option, repair or replace such goods returned within the warranty period subject to the following conditions:

- Upon discovery by Buyer of such nonconformity, RLWS will be given prompt written notice with a detailed explanation of the alleged deficiencies.
- Individual electronic components returned to RLWS for warranty purposes must be packaged to prevent electrostatic discharge (ESD) damage in shipment. Packaging requirements are listed in a publication, *Protecting Your Components From Static Damage in Shipment*, available from RLWS Equipment Return Department.
- Examination of such equipment by RLWS confirms that the nonconformity actually exists, and was not caused by accident, misuse, neglect, alteration, improper installation, improper repair or improper testing; RLWS shall be the sole judge of all alleged non-conformities.
- Such equipment has not been modified, altered, or changed by any person other than RLWS or its duly authorized repair agents.
- RLWS will have a reasonable time to repair or replace the defective equipment. Buyer is responsible for shipping charges both ways.
- In no event will RLWS be responsible for travel time or on-location repairs, including assembly or disassembly of equipment, nor will RLWS be liable for the cost of any repairs made by others.

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